

What is claimed is:

- 1 1. A circuit assembly comprising:
 - 2 a main assembly board;
 - 3 a main assembly housing; and
 - 4 a pre-assembled partition circuit assembly having a partitioned
 - 5 circuit element mounted within a partitioned circuit housing and a plurality of
 - 6 connectors, said plurality of connectors placing said partitioned circuit element
 - 7 in communication with said main assembly board when said partitioned circuit
 - 8 assembly is inserted into said main assembly board.
- 1 2. A circuit assembly as described in claim 1 wherein said
- 2 partitioned circuit assembly further includes a heat sink element.
- 1 3. A circuit assembly as described in claim 1 wherein said
- 2 partitioned circuit assembly further includes passivation material positioned
- 3 within said partitioned circuit housing.
- 1 4. A circuit assembly as described in claim 1 wherein said
- 2 partitioned circuit assembly further includes a seal element such that said
- 3 partitioned circuit assembly becomes sealed to said main assembly housing after
- 4 said partitioned circuit assembly is inserted into said main assembly board.
- 1 5. A circuit assembly as described in claim 1 wherein said
- 2 partitioned circuit assembly further includes a heat sink element, said
- 3 partitioned circuit element mounted to said heat sink element using thermally
- 4 conductive material.
- 1 6. A circuit assembly as described in claim 1 wherein said
- 2 main assembly housing includes at least one main assembly port, said at least
- 3 one main assembly port allowing said partitioned circuit assembly to be inserted
- 4 into said main assembly board through main assembly housing.

1 7. A circuit assembly as described in claim 1 further
2 comprising at least one communication port therein.

1 8. An engine controller comprising:
2 a main assembly board;
3 a main assembly housing; and
4 a pre-assembled partition circuit assembly having a partitioned
5 circuit element mounted within a partitioned circuit housing and a plurality of
6 connectors, said plurality of connectors placing said partitioned circuit element
7 in communication with said main assembly board when said partitioned circuit
8 assembly is inserted into said main assembly board.

1 9. An engine controller as described in claim 8 wherein said
2 partitioned circuit assembly further includes a heat sink element.

1 10. An engine controller as described in claim 8 wherein said
2 partitioned circuit assembly further includes passivation material positioned
3 within said partitioned circuit housing.

1 11. An engine controller as described in claim 8 wherein said
2 partitioned circuit assembly further includes a seal element such that said
3 partitioned circuit assembly becomes sealed to said main assembly housing after
4 said partitioned circuit assembly is inserted into said main assembly board.

1 12. An engine controller as described in claim 8 wherein said
2 partitioned circuit assembly further includes a heat sink element, said
3 partitioned circuit element mounted to said heat sink element using thermally
4 conductive material.

1 13. An engine controller as described in claim 8 wherein said
2 main assembly housing includes at least one main assembly port, said at least
3 one main assembly port allowing said partitioned circuit assembly to be inserted
4 into said main assembly board through main assembly housing.

1 14. An engine controller as described in claim 8 further
2 comprising at least one communication port therein.

1 15. A partitioned circuit assembly for integration into an
2 engine controller comprising:
3 a partitioned circuit element;
4 a partitioned circuit housing surrounding said partitioned circuit
5 element; and
6 a plurality of connectors.

1 16. A partitioned circuit assembly as described in claim 15
2 wherein said partitioned circuit housing includes a heat sink portion, said
3 partitioned circuit element being mounted to said heat sink portion using a
4 thermal connective adhesive.

1 17. A partitioned circuit assembly as described in claim 15
2 wherein the partitioned circuit assembly may be removably mounted to the
3 engine controller.